Electronic Version
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Claims

[c1] A method for suppressing an explosion in a fuel tank, comprising:
installing into the tank a reticulated polyurethane foam having a density less than 1.0 pounds per cubic foot [16 kg/m^3].

[c2] The method of claim 1, wherein the polyurethane foam has a density of from 0.6 to 0.9 pounds per cubic foot [9.6 to 14.4 kg/m^3].

[c3] The method of claim 1, wherein the polyurethane foam has a volume electrical resistivity of less than 10^{12} ohm-cm at 70EF [21.1EC].

[c4] The method of claim 1, wherein the polyurethane foam is reticulated by thermal reticulation.

[c5] The method of claim 1, wherein the tank has an inner volume and the foam fills from 50 to 90% of the inner volume of the tank.

[c6] The method of claim 1, wherein the fuel tank is an aircraft fuel tank.

[c7] A three dimensional structure for use as an explosion suppressing material in a fuel tank,
comprising:
a reticulated polyurethane foam prepared by (i) reacting at least one polyester or polyether polyol or a mixture of such polyols and at least one isocyanate compound under foaming conditions to produce a polyurethane foam having a density less than 1.0 pounds per cubic foot [16 kg/m^3], and (ii) reticulating said polyurethane foam.

[c8] The structure of claim 7, wherein the polyurethane foam has a density of from 0.6 to 0.9 pounds per cubic foot [9.6 to 14.4 kg/m^3].

[c9] The structure of claim 7, wherein one or more antistatic agents are added when the polyurethane foam is formed, and the polyurethane foam has a volume electrical resistivity of less than 10^{12} ohm-cm at 70EF [21.1EC].

[c10] The structure of claim 7, wherein the polyurethane foam is reticulated by thermal reticulation.

[c11] The structure of claim 7, wherein the polyurethane foam is formed under vacuum foaming conditions.